

# Autism Spectrum Disorders (Pervasive Developmental Disorders)

**Autism Spectrum disorders (ASDs) are a group of developmental disabilities characterized by severe and pervasive impairments in**

- Reciprocal social interaction skills
  - communication skills
- the presence of stereotyped behavior, interests and activities

# Prevalence

## Identified Prevalence of Autism Spectrum Disorders

ADDM Network 2000-2008

Combining Data from All Sites

Surveillance Year	Birth Year	Number of ADDM Sites Reporting	Prevalence Per 1,000 Children (Range)	This is about 1 in X Children...
2000	1992	6	6.7 (4.5-9.9)	1 in 150
2002	1994	14	6.6 (3.3-10.6)	1 in 150
2004	1996	8	8.0 (4.6-9.8)	1 in 125
2006	1998	11	9.0 (4.2-12.1)	1 in 110
2008	2000	14	11.3 (4.8-21.2)	1 in 88

# Onset, Symptoms and Signs

- Symptoms are usually evident in the first years of life and persist throughout the individual's life
- These conditions are often associated with some degree of mental retardation
- The qualitative impairments that define these conditions are distinctively deviant relative to the individual's developmental level or mental age

# Onset, Symptoms and Signs (Continued)

- People with ASDs may have problems with social, emotional, and communication skills
- They might repeat certain behaviors and might not want change in their daily activities
- Many people with ASDs also have different ways of learning, paying attention, or reacting to things
- ASDs begin during early childhood—usually by age 3—and last throughout a person's life

# Communication/Language/Symptoms

- May have little or no speech
- May repeat words or phrases
- May be quite verbal
- Formal pedantic language
- Odd prosody, peculiar voice
- Flat or limited facial expression
- Understands and uses language literally (may miss the meaning of sarcasm or jokes)
- Impairments in comprehension (asks repetitive questions)

# What do we see/Symptoms

- Repeating what is said
- Using behavior to communicate
- Upset by jokes
- Asking repetitive questions
- Understand and respond to questions very literally

# Social Interactions/Symptoms

- Seek social contact in unusual ways
- Inability to interact with peers; difficulty with turn-taking and other “play”
- Difficulty reading social cues
- Difficulty taking the perspective of another
- Socially/emotionally inappropriate behavior
- Limited use of gestures
- Limited use of facial expression
- Difficulty with facial recognition

# What do we see/Symptoms

- Prefers to be alone at times
- May want to make friends, but socially inept
- Not pick up when someone has had enough of a conversation
- Not understand emotions of others - assumes everybody thinks/feels the same as he does
- Appear uncaring/rude to others (show no emotion)
- Overreact (more emotional than situation warrants)
- Interrupt conversations
- Behave the same in different social situations and with different people
- May be fearful of people because cannot predict others' behaviors



# Repetitive/restrictive Interests/Symptoms

- Upset by or resists changes; transitions difficult
- Develops rigid routines
- Exhibits strong and inflexible interests
- Exhibits narrow/odd interests

# What do we see?

- High stress level when changes occur
- Difficulty accepting mistakes in themselves or others
- Upset when others ignore rules
- Inappropriate conversations surrounding special interests

# Sensory Issues

- Oversensitive to some sounds, sights, tastes and odors
- Under-responsive to some input (especially verbal)
- Difficulty with modulating input
- Exhibits unusual response to pain

# What do we see/Symptoms?

- Stressed in certain situations (crowds)
- Not responding to questions
- Avoidance of activities
- Not reporting health issues/concerns
- May intensely dislike certain smells or sounds
- Dress inappropriately for weather

# Thinking and Learning

- Uneven pattern of skill development
- Difficulty manipulating 2 ideas at once
- Focus on details – miss connections and relationships, relevant vs irrelevant
- Concrete thinking; abstract concepts difficult
- Organization and sequencing problems
- Visual over verbal
- Prompt dependent
- Learn in routines

# Thinking and Learning (cont.)

- Difficulty solving problems or generating new or alternative solutions to situations
- Chunks of information that occur close together in time are quickly associated
- Concept of time is impaired
- Language is understood and used literally
- Difficulty with generalization

# What do we see?

- Avoids new tasks or situations
- Fails to meet expectations of others
- Difficulty “getting started” due to organizational deficits
- “One track mind”
- Difficulty working as a member of a team

# Types of ASD

- Autistic disorder - most common
- Rett's disorder
- Disintegration disorder of childhood
- Asperger's disorder
- Pervasive developmental disorder - not otherwise specified (PDD-NOS)



Features	Autistic Disorder	Retts Disorder	Disintegrative Disorders of Childhood	Aspergers Disorder	Pervasive Development Disorder Not Otherwise Specified
Onset	1st year of life	1st three years of life	2 years of normal growth	1st three years of life	1st three years of life
Gender Prevalence	M>F 5:1	Females only	M=F	M>F 5:1	?
Mental Retardation	+±	+++	++	±	+
<b>Areas of impairment:</b> <ul style="list-style-type: none"> <li>•reciprocal social interaction</li> <li>•cognitive development</li> <li>•language development</li> </ul>	+ + +	+ + +	+ + +	++ - -	+ + +
Seizure Disorder	+	+	+	-	?
Anxiety and Depression	±	±	±	+	?
Familial Pattern	Increased risk among siblings—5% of siblings	?	?	Increased frequency among family members. Data are however limited	?

# Diagnosing ASD

- Often a two stage process
- First stage involves general developmental screening during well-child checkups
  - Children who show some developmental problems are referred for additional evaluation
- Second stage involves a thorough evaluation by a team of doctors and other health professionals; at this stage a child may be diagnosed with having one of the ASD

# Diagnosing ASD (Continued)

- The earlier an accurate diagnosis is made, the sooner specific interventions may begin
- Early intervention can reduce or prevent the more severe disabilities associated with ASD
- Early intervention may also improve the individual's IQ, language and everyday functional skills/adaptive behavior

# Diagnosing ASD—Screening

- Well-child checkup should include a developmental screening test with specific ASD screening at 18 and 24 months
- Several instruments are available depending on the age of the child, and examples are:
  - Checklist for autism in toddlers
  - Modified checklist for autism in toddlers
  - Screening tools for autism in 2 year olds
  - Social communication questionnaire
  - Communication and symbolic behavior scales

# Diagnosing ASD—Screening (Continued)

- To screen mild ASD or Asperger's syndrome in older children, here are other instruments:
  - Autism spectrum screening questionnaire
  - Australian scale for Asperger's syndrome
  - Childhood Asperger's syndrome test

# Diagnosing ASD—Evaluation

- A team of Psychiatrist / psychologist / neurologist / speech therapist or other professionals experienced in diagnosing ASD may do this evaluation
- To rule out other frequently associated conditions, brain imaging, gene tests, in-depth memory, problem solving, hearing and language testing is done

# ASD—Prevalence

- The complex nature of these disorders, coupled with a lack of biologic markers for diagnosis and changes in clinical definitions over time, creates challenges in monitoring the prevalence of ASDs. Accurate reporting of data is essential to understanding the prevalence of ASDs in the population, and can help direct research

# Treatment Approach

- The main goal of treatment is to improve social, communicative functioning/cognition, and to reduce the impact of repetitive behaviors on learning
- There is emerging evidence that early intervention for children with autism is beneficial and results in improved long term cognition
- No comparative studies between interventions have been reported



# Treatment Approach (Continued)

- Little evidence exists about which interventions are best for particular groups
- While some teachers use specific approaches for children, others use a more generic approach—there is no evidence that one of these approaches is better than another
- Interventions are time consuming—up to 40 hours a week—and expensive when done by trained specialists

# Types of Therapies—Early Educational and Behavioral Interventions

- Applied behavioral analysis
- Autism pre-school program
- Early start Denver model
- More Than Words and Child's Talk
- Treatment and Education of Autistic and Communication Related Handicapped Children (TEACCH)
- Parent mediated or delivered intervention

# Pharmacological Therapy

- No medication is available to treat the core difficulties associated with autism; and medications should be reserved for when behavioral/educational techniques fail
- Risperidone: for older children with challenging behavior, aggression and irritability
- SSRIs Prozac: for use in adolescents with anxiety or depression

# Pharmacological and Other Therapies

- Ritalin: for those with hyperactivity
- Picture exchange communication system
- Hormones/diets/lifestyle/other alternative options—no evidence that nutritional supplements, IV secretin, gluten diet are effective

# Available Services Contracted Through NC DHHS

- \$3.8M Contract with the Autism Society of North Carolina to provide advocacy, clinical training, public education and direct service provision
- \$339,890.00 Contract with Mariposa School to provide early intervention services
- \$366,703 Contract with EasterSeals/UCP to provide early intervention services
- Even though there are no specific ASD services in the Medicaid State Plan, individuals with ASD are potentially eligible for Medicaid Waiver services under the CAP/DD or Innovation Waivers if, in addition to the diagnosis, they show significant deficits in 3 of 5 life skill areas

# Available Services Contracted Through NC DHHS

- Individuals with ASD are also potentially eligible for IPRS ID/DD services. These funds are limited, and are used for services such as developmental therapies, respite and some vocational/day program services

# The End

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QUESTIONS??